

ABSTRACT

A linear direct current motor comprises a center yoke (1) extending in the longitudinal direction X, an outer yoke (31) arranged parallel to the center yoke, a permanent magnet (41) for generating magnetic field between the outer yoke and the center yoke, and a coil assembly (10) that is movable in the longitudinal direction X having an opening through which the center yoke passes. This coil assembly includes a flat cooling pipe (7) having a cross section elongated in the longitudinal direction and a U-shaped fold for passing the center yoke through, a manifold (9) having a cooling medium inlet (9A) and a cooling medium outlet (9B) and being connected to both ends of the cooling pipe, and a coil (5) wound around the cooling pipe and the manifold.